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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,886	01/16/2002	Valery V. Felmetzger	SPUTT-57354	7950

7590

03/04/2003

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EXAMINER

CHAMBLISS, ALONZO

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/051,886

Applicant(s)

FELMETSGER, VALERY V.

Examiner

Alonzo Chambliss

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-64 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. The restriction requirement filed on 11/29/02 has been withdrawn and claims 1-64 are pending in the instant application.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: curve 32 on page 12 line 14. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claim 28 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 28 recites the same subject matter as claim 23, which claims 24 and 27 depend upon. Also, claim 60 recites the same subject matter as claim 59.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. In claims 1 and 59, the phrase " a deposition " is vague and indefinite since it is not clear what the deposition is or what applicant is make claim for by using the phrase " deposition ".
7. In claims 1 and 29, the phrase " cleaning impurities " is vague and indefinite since it is not clear how the impurities are cleaned from the wafer nor what structure in the claim performs the cleaning.
8. In claims 1, 22, 29, 39, the phrase " creating microscopic roughness " is vague and indefinite since it is not clear from the claim how the microscopic roughness are created nor what structure in the claim performs the roughness process.
9. Claim 1 recites the limitation " a deposition " in line 5. There is insufficient antecedent basis for this limitation in the claim.
10. In claim 4, the phrase " In a method as set forth in claims wherein " is vague and indefinite since the language is confusing.
11. In claims 5, 11, 22, 35, 39, the phrase " removing impurities " is vague and indefinite since it is not clear how the impurities are removed from the wafer nor what structure in the claim performs the removing.

12. In claims 5, 11, 48, 50, 52, 53, the phrase " depositing a chromium layer with an intrinsic tensile stress " is vague and indefinite since it is not clear what creates the *intrinsic tensile stress in the chromium layer*.

13. In claims 5 and 56, the phrase " depositing a layer of nickel vanadium with an intrinsic tensile stress " is vague and indefinite since it is not clear what creates the *intrinsic tensile stress in the nickel vanadium layer*.

14. In claim 6, the phrase "microscopic roughness " is vague and indefinite since it is not clear from the claim how the microscopic roughness is produced nor what structure in the claim performs the roughness process.

15. In claims 5, 9, 18, 49, 54, the phrase " to neutralize " is vague and indefinite since it is not clear how the nickel vanadium deposited on the chromium layer neutralizes the *intrinsic tensile stress produced by the chromium layer*.

16. In claim 6, the phrase " a minimal amount " is vague and indefinite since it is not clear what the minimal amount is since there is nothing in the claim to compare what a minimal or maximum amount.

17. In claims 8 and 10, the phrase " the chromium layer is deposited on the surface of the wafer to produce an intrinsic tensile stress in the chromium layer " is vague and indefinite since it is not clear what creates the *intrinsic tensile stress in the chromium layer*.

18. In claims 9 and 12, the phrase " to produce an intrinsic tensile stress with a low stress value " is vague and indefinite since it is not clear what creates the *intrinsic*

tensile stress in the chromium layer. Furthermore, it is not clear what constitutes a low stress value when the claim does not recite what low is compared to.

19. In claims 13 and 16, the phrase "substantially no RF bias" is vague and indefinite since the claim recites substantially, while the specification on page 4 recites "no RF bias".

20. Claim 14 recites the limitation "the inert gas" in line 2. There is insufficient antecedent basis for this limitation in the claim.

21. Claims 14 and 15 recite the limitation "the chamber" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

22. Claim 15 recites the limitation "a waferland" in line 2. There is insufficient antecedent basis for this limitation in the claim.

23. Claims 15 and 34 recite the limitation "a layer of chromium" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

24. Claim 16 recites the limitation "the waferland" in line 3. There is insufficient antecedent basis for this limitation in the claim.

25. Claim 16 recites the limitation "a waferland" in line 8. There is insufficient antecedent basis for this limitation in the claim.

26. Claim 16 recites the limitation "a layer of chromium" in lines 8 and 9. There is insufficient antecedent basis for this limitation in the claim.

27. Claim 18 recites the limitation "the metal layer" in line 5. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is not clear if the metal layer and the chromium layer are one in the same.

28. Claim 20 recites the limitation " a layer of chromium " in line 3. There is insufficient antecedent basis for this limitation in the claim.
29. Claims 21 and 26 recite the limitation " the deposition " in line 4. There is insufficient antecedent basis for this limitation in the claim.
30. Claims 23 and 27 recite the limitation " the sub-assembly " in line 4. There is insufficient antecedent basis for this limitation in the claim.
31. In claim 44, the phrase " with a minimal amount of stress " is vague and indefinite since it is not clear what creates stress in the chromium layer. Furthermore, it is not clear what constitutes a minimal amount when the claim does not recite what low is compared to.
32. In claims 44, 48, 51, and 53, the phrase " in combination " is vague and indefinite since it is not clear what in combination means. Furthermore, it is not clear what type of semiconductor device applicant is making claim for.
33. In claim 45, the phrase " with a minimal amount of tensile stress " is vague and indefinite since it is not clear what creates tensile stress in the chromium layer. Furthermore, it is not clear what constitutes a minimal amount when the claim does not recite what low is compared to.
34. In claims 48 and 53, the phrase " depositing a layer of nickel vanadium with an intrinsic compressive stress " is vague and indefinite since it is not clear what creates the intrinsic compressive stress in the chromium layer.

35. In claim 49, the phrase " a minimal value " is vague and indefinite since it is not clear what the minimal value is since there is nothing in the claim to compare what a minimal or maximum amount.

36. In claim 59, the word " ground " is vague and indefinite since it is not clear what is meant by " ground ".

37. Claim 57 recites the limitation " the metal layer " in line 4. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is not clear is the metal layer and the nickel vanadium are one in the same.

The prior art made of record and not relied upon is cited primarily to show the product of the instant invention.

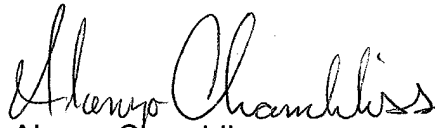
### **Conclusion**

38. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (703)

306-9143. The fax phone number for this Group is (703) 308-7722 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956

AC/March 2, 2003

  
Alonzo Chambliss  
Patent Examiner  
Art Unit 2827

### Interview Summary

**Application No.**

10/051,886

**Applicant(s)**

FELMETSGER, VALERY V.

**Examiner**

Alonzo Chambliss

**Art Unit**

2827

All participants (applicant, applicant's representative, PTO personnel):

(1) Alonzo Chambliss.

(3) \_\_\_\_\_.

(2) Ellsworth R. Roston.

(4) \_\_\_\_\_.

Date of Interview: 24 February 2003.

Type: a) ☐ Telephonic b) ☐ Video Conference  
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.

If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: N/A.

Identification of prior art discussed: N/A.

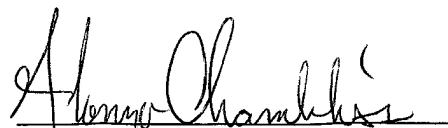
Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: applicant's attorney was called to make suggestions to the independent claims to place the instant application in condition for allowance. However, as of 3/2/03 the attorney has failed to respond to the examiner messages left on the attorney's voice mail. Therefore, a non-final rejection is forthcoming.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

  
Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case unless both applicant and examiner agree that the examiner will record same. Where the examiner agrees to record the substance of the interview, or when it is adequately recorded on the Form or in an attachment to the Form, the examiner should check the appropriate box at the bottom of the Form which informs the applicant that the submission of a separate record of the substance of the interview as a supplement to the Form is not required.

It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.